

STATE WEATHER SERVICES.

[Temperature in degrees Fahrenheit; precipitation, including melted snow, in inches and hundredths.]

The following extracts and summaries are republished from reports for February, 1891, of the directors of the various state weather services:

ALABAMA.

Temperature.—Maximum, 83, at Montgomery, 19th; minimum, 17, at Valley Head, 26th and 27th; greatest monthly range, 60, at Jasper; least monthly range, 48, at Chepultepec.

Precipitation.—Greatest monthly, 11.20, at Auburn; least monthly, 4.54, at Mobile.

Wind.—Prevailing direction, south.—*Prof. P. H. Mell, Auburn, director; J. M. Quarles, Private, Signal Corps, assistant.*

ARKANSAS.

Temperature.—The mean was 3.2 above the normal; maximum, 80, at Fort Smith, 24th; minimum, 6, at Fayetteville and Winslow, 26th; greatest monthly range, 69, at Fayetteville; least monthly range, 46, at Forrest City.

Precipitation.—The average was 2.08 below the normal; greatest monthly, 8.38, at Greenville, Miss.; least monthly, 0.75, at Fort Smith.

Wind.—Prevailing direction, south.—*M. F. Locke, Commissioner of Agriculture, Little Rock, director; F. H. Clarke, Sergeant, Signal Corps, assistant.*

COLORADO.

Temperature.—The mean was 3.6 below the normal; maximum, 72, at Burlington, 25th, and at Rocky Ford, 23d; minimum, —46, at Breckenridge and Gunnison, 9th; greatest monthly range, 112, at Breckenridge; least monthly range, 40, at Watkins.

Precipitation.—The average was 0.50 above the normal; greatest monthly, 12.00 at Rico; least monthly, 0.00, at several stations.

Wind.—Prevailing direction, west.—*W. S. Miller, Sergeant, Signal Corps, Denver, assistant.*

ILLINOIS.

Temperature.—The mean was 1.4 above the normal; maximum, 72, at Rushville, 24th; minimum, —13, at Cockrell and Lanark, 4th.

Precipitation.—The average was 0.21 below the normal; greatest monthly, 5.68, at Palestine; least monthly, 0.89, at Davenport, Iowa.

Wind.—Prevailing direction, northwest.—*John Craig, Sergeant, Signal Corps, Springfield, in charge.*

INDIANA.

Temperature.—Maximum, 69, at De Gonia Springs, 20th; minimum, —12, at La Fayette, 4th; greatest monthly range, 73, at La Fayette; least monthly range, 56, at Muncie.

Precipitation.—Greatest monthly, 9.55, at Huntingburgh; least monthly, 1.95, at Valparaiso.

Wind.—Prevailing direction, northwest.—*Prof. H. A. Huston, La Fayette, director; C. F. R. Wappenhans, Sergeant, Signal Corps, assistant.*

IOWA WEATHER AND CROP SERVICE.

Temperature.—Maximum, 70, at Keokuk, 24th; minimum, —31, at Cresco, 4th; greatest monthly range, 76, at Keokuk and Charles City; least monthly range, 50, at Alta.

Precipitation.—Greatest monthly, 2.41, at Manson; least monthly, 0.55, at Silsion.

Wind.—Prevailing direction, northwest.—*J. R. Sage, Des Moines, director; G. M. Chappel, Sergeant, Signal Corps, assistant.*

KANSAS.

Temperature.—The mean was below the normal in all counties except Sumner; maximum, 80, at Englewood, 23d; minimum, —10, at Seneca, 28th; greatest monthly range, 79, at Lakin; least monthly range, 56, at Manhattan;

Precipitation.—The average was in excess of the normal in the southeast part of the state, elsewhere it was below; greatest monthly, 2.72, at Marmaton; least monthly, trace, at Tribune.

Wind.—Prevailing direction, south.—*Prof. J. T. Lovewell, Topeka, director; T. B. Jennings, Sergeant, Signal Corps, assistant.*

KENTUCKY.

Temperature.—Maximum, 76, at Mount Sterling, 20th, and at Franklin 17th; minimum, 0 (zero), at Caddo, 4th; greatest monthly range, 67, at Caddo and Louisville; least monthly range, 51, at Canton.

Precipitation.—The average was about 1.25 above the normal; greatest monthly, 8.99, at Middlesborough; least monthly, 2.96, at Earlington.

Wind.—Prevailing direction, south.—*Dr. E. A. Grant, Louisville, director; Frank Burke, Sergeant, Signal Corps, assistant.*

LOUISIANA.

Temperature.—The mean was 4.3 above the normal in the northern section and 5.8 above in the southern; maximum, 85, at Cheneyville, 17th, 18th, 19th; minimum, 20, at Lake Charles, 9th; greatest monthly range, 60, at Liberty Hill; least monthly range, 45, at Shell Beach, Emilie, and Edgard.

Precipitation.—The average was greatly above the normal; greatest monthly, 15.15, at Emilie; least monthly, 2.73, at Shreveport.

Wind.—Prevailing direction, south.—*George E. Hunt, Sergeant, Signal Corps, New Orleans, in charge.*

MICHIGAN.

Temperature.—The mean varied from 2.1 above the normal in the northern section to 4.7 above in the central section; maximum, 59, at Benton Harbor, 24th; minimum, —28, at Hillman, 4th; greatest monthly range, 78, at Hillman; least monthly range, 36, at Atlantic.

Precipitation.—The average varied from 0.27 above the normal in the Upper Peninsula to 1.74 above in the central section; greatest monthly, 6.51, at Adrian; least monthly, 1.49, at Grand Rapids.

Wind.—Prevailing direction, west.—*N. B. Couger, Sergeant, Signal Corps, Lansing, director.*

MINNESOTA.

Temperature.—Maximum, 51, at Grand Meadow, 23d; minimum, —44, at Pine River, 28th; greatest monthly range, 81, at Pine River; least monthly range, 63, at Farmington.

Precipitation.—Greatest monthly, 2.35, at Saint Charles; least monthly, 1.08, at Alma City.

Wind.—Prevailing direction, northwest.—*John Healy, Corporal, Signal Corps, Minneapolis, in charge.*

MISSISSIPPI.

Temperature.—The mean was 4.9 above the normal; maximum, 86, at Vaiden, 19th; minimum, 20, at Louisville, 27th; greatest monthly range, 66, at Vaiden; least monthly range, 40, at Ship Island.

Precipitation.—The average was 1.77 above the normal; greatest monthly, 12.43, at Vaiden; least monthly, 2.04, at Bay Saint Louis.—*R. B. Fulton, Signal Corps, University, director.*

METEOROLOGICAL REPORT OF THE MISSOURI STATE BOARD OF AGRICULTURE.

Temperature.—The mean was about 2 below the normal; maximum, 78, at California, 24th; minimum, —13, at Pickering, 28th; greatest monthly range, 80, at Adrian; least monthly range, 44, at Dadeville.

Precipitation.—The average was about 0.50 below the normal; greatest monthly, 4.26, at Mine La Motte; least monthly, 1.20, at Austin and Bethany.—*Levi Chubbuck, Secretary of State Board of Agriculture, Columbia, director; A. L. McKee, Sergeant, Signal Corps, assistant.*

NEBRASKA.

Temperature.—The mean was 3.0 below the normal; maximum, 85, at Superior; minimum, —30, at Fort Niobrara.

Precipitation.—The northern part of the state with a strip along the Missouri river received more than 1.00 of rainfall, and the southern half of the state less.—*Prof. Goodwin D. Swezey, Crete, director; G. A. Loveland, Sergeant, Signal Corps, assistant.*

NEVADA.

Temperature.—The mean was 0.5 below the normal; maximum, 66, at Yount's Ranch, 14th; minimum, —19, at Ely, 9th; greatest monthly range, 69, at Beowawe; least monthly range, 37, at Humboldt.

Precipitation.—The average was 1.14 above the normal; greatest monthly, 9.30, at Lewer's Ranch; least monthly, 0.80, at Candelaria.

Wind.—Prevailing direction, south.—*Prof. Charles W. Friend, Carson City, director; D. C. Grunow, Corporal, Signal Corps, assistant.*

NEW ENGLAND METEOROLOGICAL SOCIETY.

Temperature.—The mean was 3.4 above the normal; maximum, 63, at Lake Cochituate, 25th; minimum, —28, at West Milan, 5th; greatest monthly range, 80, at West Milan; least monthly range, 40, at Block Island.

Precipitation.—The average was 0.92 above the normal; greatest monthly, 7.30, at Lake Konomoc; least monthly, 1.01, at Burlington.

Wind.—Prevailing direction, northwest.—*Prof. William H. Niles, Boston, Mass., president; Prof. Winslow Upton, Providence, R. I., secretary; J. Warren Smith, Private, Signal Corps, assistant.*

NEW JERSEY.

Temperature.—The mean was 6.5 above the normal; maximum, 71, at Vine-land, 18th; minimum, 1, at Tenally, 28th; greatest monthly range, 60, at Beverly; least monthly range, 42, at Deckertown (Pochuck Mountain).

Precipitation.—The average was 1.65 above the normal; greatest monthly, 7.20, at Egg Harbor City; least monthly, 3.70, at Junction.

Wind.—Prevailing direction, northwest.—*E. W. McGann, Sergeant, Signal Corps, New Brunswick, in charge.*

NEW YORK.

Temperature.—Maximum, 65, at Brooklyn, 17th; minimum, —19, at Number Four, 5th; greatest monthly range, 67, at Potsdam; least monthly range, 43, at Buffalo.

Precipitation.—Greatest monthly, 8.24, at Constableville; least monthly, 1.52, at Lyons.

Wind.—Prevailing direction, southwest.—*Prof. E. A. Fuertes, Dean of the College of Civil Engineering, Cornell University, Ithaca, director; R. M. Hardinge, Private, Signal Corps, assistant.*

NORTH CAROLINA.

Temperature.—The mean was 3 above the normal; maximum, 81, at Marshallberg, 25th; minimum, 4, at Highlands, 27th; greatest monthly range, 62, at Franklin; least monthly range, 38, at Hatteras and Southport.

Precipitation.—The average was 1.50 above the normal, and was the greatest rainfall reported since February, 1873; greatest monthly, 20.20, at Highlands; least monthly, 1.54, at Wilmington.

Wind.—Prevailing direction, southwest.—*Dr. Herbert B. Battle, Raleigh, director; C. F. von Herrmann, Sergeant, Signal Corps, assistant.*

NORTH AND SOUTH DAKOTA.

Temperature.—The mean was about 6.0 below the normal; maximum, 55, at Rapid City, S. Dak., 14th; minimum, —39, at Wahpeton, N. Dak., 28th; greatest monthly range, 93, at Wahpeton, N. Dak.; least monthly range, 55, at De Smet, S. Dak.

Precipitation.—The average was about 0.62 above the normal; greatest monthly, 2.45, at Webster, S. Dak.; least monthly, 55, at De Smet, S. Dak.

Wind.—Prevailing direction, northwest.—*S. W. Glenn, Sergeant, Signal Corps, Huron, S. Dak., in charge.*

OHIO.

Temperature.—The mean was 5.0 above the normal; maximum, 60, at Portsmouth, 20th, and is the highest maximum on record for February; minimum, —2, at Granville, 5th.

Precipitation.—The average was 0.97 above the normal; greatest monthly, 7.61, at Demos; least monthly, 2.91, at Wapakoneta.

Wind.—Prevailing direction, southwest.—*Prof. B. F. Thomas, Columbus, director; C. M. Strong, Sergeant, Signal Corps, secretary and assistant.*

OREGON.

The characteristics of the month were the deficiency in temperature and the excess in precipitation and snowfall.

Temperature.—The mean was 2.7 below the normal; maximum, 59, at Gardiner, 10th; minimum, —11, at Baker City, 2d.

Precipitation.—The average was 1.78 above the normal; greatest monthly, 14.06, at Bandon; least monthly, 2.16, at Pendleton.

Wind.—Prevailing direction, southwest.—*Hon. H. E. Hayes, Master State Grange, Oswego, director; B. S. Pague, Sergeant, Signal Corps, assistant.*

PENNSYLVANIA.

Temperature.—The mean was 6.0 above the normal; maximum, 70, at Philadelphia, 18th; minimum, —7, at Dyberry, 5th; greatest monthly range, 63, at Somerset; least monthly range, 46, at Kennett Square, Nisbet, and Greenville.

Precipitation.—The average was slightly above the normal; greatest monthly, 8.29, at Ligonier; least monthly, 2.13, at Blue Knob.

Wind.—Prevailing direction, northwest.—*Under direction of the Franklin Institute, Philadelphia; T. F. Townsend, Sergeant, Signal Corps, assistant.*

SOUTH CAROLINA.

Temperature.—Maximum, 83, at Jacksonborough, 19th; minimum, 13, at Spartanburgh, 4th; greatest monthly range, 57, at Spartanburgh and Yorkville; least monthly range, 46, at Walhalla.

Precipitation.—Greatest monthly, 9.53, at Evergreen; least monthly, 0.99, at Charleston.

Wind.—Prevailing direction, southwest.—*A. P. Butler, director, State Weather Service, and observer, Signal Service.*

TENNESSEE.

Temperature.—The mean was 3.5 above the normal; maximum, 78, at Dare, 17th; minimum, 12, at Rugby, 4th; greatest monthly range, 64, at Hohenwald; least monthly range, 46, at McKenzie and Union City.

Precipitation.—The average was nearly 2.00 above the normal; greatest monthly, 11.24, at Rockwood; least monthly, 3.31, at Union City.

Wind.—Prevailing direction, south.—*J. D. Plunket, M. D., Nashville, director; H. C. Bate, Signal Corps, assistant.*

TEXAS.

Temperature.—The mean was 2 to 4 above the normal along the coast and over the eastern part of the state, elsewhere it was normal; maximum, 97, at Rio Grande City, 24th; minimum, 4, at Coldwater, 27th; greatest monthly range, 75, at Childress; least monthly range, 45, at La Grange.

Precipitation.—Less than 50 per cent. of the average fell over the west part, and was very little more over other parts, except along the extreme east coast, and over a few localities where it was about 1.00 in excess; greatest monthly, 4.85, at Fort Worth; least monthly, 0.00, at a number of stations.—*D. D. Bryan, Galveston, director; I. M. Cline, Sergeant, Signal Corps, assistant.*

WISCONSIN.

Temperature.—The mean was 2.0 below the normal; maximum, 60, at Kenosha, 24th; minimum, —40, at Rhinelander, 28th.

Precipitation.—The average was about 2.00 below the normal; greatest monthly, 4.05, at Embarrass; least monthly, 0.69, at Delavan.

Wind.—Prevailing direction, west.—*R. E. Kerkam, Milwaukee, Sergeant, Signal Corps, in charge.*

Meteorological record of Army post surgeons, voluntary, and other co-operating observers, February, 1891.

Stations.	Temperature. (Fahrenheit.)			Precip'n.		Stations.	Temperature. (Fahrenheit.)			Precip'n.
	Max.	Min.	Mean.				Max.	Min.	Mean.	
<i>Alabama.</i>	0	0	0	Ins.		<i>California—Cont'd.</i>	0	0	0	Ins.
Bermuda *.....	80	25	58.6	8.97		Almaden*.....	64	31	50.2	12.01
Bessemer.....	80	22	53.6	10.10		Anaheim*.....	72	45	53.3	9.05
Brewton.....	81	25	55.5	5.61		Anderson.....	66	20	46.0	13.01
Chepultepec.....	80	32	49.6	7.78		Angel Island.....	68	36	49.5	7.57
Citronelle.....	82	24	61.8	8.20		Antioch*.....	64	39	52.7	4.55
Columbiana †.....	80	18	55.2	8.31		Aptos*.....	62	28	49.7	13.16
Cordova *.....	.....	.....	.....	8.20		Athlone*.....	73	30	50.7	2.46
Decatur (1) †.....	.....	.....	.....	9.30		Bakersfield*.....	71	29	52.3	1.20
Double Springs †.....	74	19	52.0	10.30		Barstow.....	72	20	47.9	2.47
Gadsden.....	.....	.....	.....	9.64		Beaumont*.....	70	30	47.3	8.70
Greensborough.....	78	24	57.0	8.15		Belmont*.....	61	30	51.6	.....
Jasper.....	78	18	50.9	8.72		Benicia Barracks.....	63	32	48.2	7.81
Livingston (1) *.....	80	24	54.9	6.08		Berendo*.....	65	30	49.5	2.44
Mountain Home.....	77	15	48.8	10.15		Berkeley.....	63	35	49.4	10.68
Mt. Vernon B'ks.....	81	23	57.2	13.73		Bishop Creek*.....	61	17	41.7	3.70
Talladega.....	.....	.....	.....	10.13		Boca*.....	56	12	28.0	11.80
Tusculum (1).....	77	22	50.2	9.30		Borden*.....	68	32	47.3	2.48
Uniontown.....	79	24	55.6	9.91		Boulder Creek.....	68	24	49.0	34.03
Valley Head †.....	70	17	47.9	9.58		Brentwood.....	61	30	48.6	4.03
<i>Alaska.</i>	.....	.....	.....	.....		Brighton*.....	69	27	49.0	4.64
Juneau.....	45	7	27.4	2.68		Byron*.....	64	30	50.2	4.73
Killishnoo.....	39	2	21.9	2.70		Calistoga*.....	66	24	48.2	13.84
<i>Arizona.</i>	.....	.....	.....	.....		Campo.....	.....	.....	.....	12.50
Antelope Valley.....	.....	.....	.....	9.29		Castroville*.....	68	34	52.9	5.89
Ariz. Canal Co. Dam.....	77	28	52.7	4.81		Centerville*.....	72	38	53.5	4.72
Ash Canyon.....	67	22	45.0	5.11		Chico*.....	68	30	48.5	8.76
Benson *.....	73	30	59.2	1.31		Cisco*.....	39	12	20.7	11.88
Buckeye.....	.....	.....	.....	0.47		Colfax*.....	60	32	44.1	14.60
Calabasas.....	.....	.....	.....	1.58		Colton*.....	70	30	45.8	6.48
Casa Grande *.....	70	34	54.7	1.90		Crescent City.....	.....	.....	.....	20.55
Chino.....	60	10	37.8	2.30		Davisville*.....	70	33	50.6	10.55
Chiri Cauha M't's.....	.....	.....	.....	1.33		Delano*.....	69	32	49.1	1.99
Chloride.....	63	16	42.0	4.77		Delta*.....	62	23	42.2	13.70
Cooleys.....	49f	1f	31.5f	9.45d		Downey*.....	70	34	53.4	9.39
Cottonwood.....	.....	.....	.....	6.00		Dunnigan.....	59	29	45.7	9.60
Dragoon †.....	.....	.....	.....	2.18		Dunsinnur.....	59	27	38.3	2.59
Dragon Summit *.....	70	30	45.0	1.99		El Dorado*.....	66	29	44.7	6.93
Dos Cabezos *.....	.....	.....	.....	2.16		Elmira*.....	72	32	50.3	8.87
Eagle Pass.....	.....	.....	.....	3.65		El Verano*.....	65	28	48.6	9.56
Farley's Camp.....	.....	.....	.....	11.15		Emigrant Gap *.....	45	18	31.7	.....
Florence.....	85	22	50.4	4.99		Esparto*.....	62	33	49.3	11.09
Fort Apache.....	62	10	39.1	4.10		Evergreen.....	.....	.....	.....	4.57
Fort Bowie.....	66	20	40.4	2.18		Farmington*.....	65	29	49.2	6.35
Fort Grant.....	67	19	44.5	3.78		Felton*.....	68	21	48.6	21.60
Fort Huachuca.....	68	21	47.3	1.80		Fernando*.....	72	32	50.2	6.32
Fort Lowell.....	81	18	51.0	3.05		Florence*.....	74	29	54.6	8.00
Gila Bend (1) *.....	70	40	55.4	2.60		Folsom*.....	71	31	50.3	4.56
Gila Bend (2) *.....	75	36	53.3	2.23		Fort Bidwell.....	46	1	28.6	3.98
Grand Central Mill.....	.....	.....	.....	0.73		Fort Gaston.....	58	23	41.8	14.26
Holbrook *.....	67	6	38.4	1.78		Fort Mason.....	63	37	49.4	9.42
Maricopa (1) *.....	63	45	53.0	2.33		Fresno*.....	70	32	50.1	1.03
Maricopa (2).....	.....	.....	.....	4.00		Fruita*.....	61	30	44.8	9.35
Natural Bridge.....	.....	.....	.....	4.35		Georgetown.....	55	24	40.2	10.39
Oro.....	.....	.....	.....	3.50		Gilroy*.....	62	32	49.3	6.76
Pantano *.....	75	28	49.5	1.88		Gilroy *.....	61	32	39.8	7.00
Payson.....	.....	.....	.....	7.85		Goshen*.....	68	26	47.8	1.71
Red Rock.....	.....	.....	.....	2.00		Grass Valley.....	.....	.....	.....	13.70
San Carlos.....	79	16	48.7	5.25		Haywards*.....	60	32	47.6	8.28
Show Low †.....	.....	.....	.....	3.00		Hollister*.....	75	26	52.3	3.22
Signal *.....	71	25	48.4	4.87		Hornbrook*.....	57	15	37.8	2.99
Strawberry.....	.....	.....	.....	7.63		Hydesville.....	66	24	43.8	9.91
Teviston.....	.....	.....	.....	5.25		Indio.....	68	28	57.6	1.90
Texas Hill*.....	73	22	51.0	2.50		Lone.....	65	25	46.4	2.30
Tip Top *.....	.....	.....	.....	13.30		Iowa Hill*.....	59	29	41.5	10.52
Tucson (1) †.....	74	23	50.6	3.28		Jolon.....	.....	.....	.....	8.75
Tucson (2) *.....	67	31	52.5	2.08		Julian †.....	64	28	42.2	19.32
Whipple Barracks.....	65	7	39.2	5.96		Keeler.....	68	28	41.0	.....
Willcox*.....	75	18	46.9	2.45		Keene*.....	63	31	43.7	6.59
Wilcox.....	.....	.....	.....	1.70		Kingsburgh*.....	63	40	51.0	1.49
Wood Canon.....	.....	.....	.....	3.50		King City*.....	68	22	48.8	4.77
Woodruff.....	.....	.....	.....	2.00		Knight's Landing*.....	64	34	48.8	9.40
<i>Arkansas.</i>	.....	.....	.....	.....		Lathrop*.....	71	30	51.7	2.80
Arkansas City †.....	.....	.....	.....	7.87		Laurel*.....	61	27	43.8	28.95
Brinkley.....	72	24	44.5	1.90		Lemoore*.....	70	24	51.0	1.36
Camden †.....	79	25	51.0	4.60		Livermore*.....	70	28	49.1	4.18
Conway.....	72	25	46.2	3.79		Livingston*.....	71	25	49.0	3.16
Dallas.....	76	15	45.0	1.94		Long Beach*.....	78	32	51.3	.....
Dardanelle.....	.....	.....	.....	1.82		Los Angeles*.....	70	33	52.1	9.24
Devall's Bluff.....	77	18	48.0	2.77		Los Banos*.....	64	30	49.4	2.17
Fayetteville*.....	75	6	39.5	1.12		Los Gatos (1) *.....	65	28	51.1	10.65
Forrest City †.....	70	30	53.5	2.60		Los Gatos (2) *.....	63	32	48.0	17.50
Fulton.....	.....	.....	.....	1.54		Mammoth Tank.....	72	31	53.2	2.73
Harrisburgh.....	72	20	44.4	3.30		Martinez*.....	60	30	45.1	6.58
Helena (1) †.....	.....	.....	.....	4.49		Milton (near).....	62	34	49.2	2.71
Helena (2) *.....	74	21	47.2	4.57		Marysville*.....	70	28	50.2	8.08
Hot Springs.....	76	17	47.4	4.29		Menlo Park*.....	62	32	51.4	7.02
Lead Hill*.....	76	14	41.4	1.00		Merced*.....	75	33	47.5	2.23
Loneke.....	73	24	50.0	1.90		Modesto*.....	72	28	51.6	1.91
Malvern.....	79	28	53.0	1.30f		Mojave*.....	68	19	45.0	2.33
Mount Nebo.....	70	12	43.5	1.69		Monson*.....	69	27	48.4	1.80
Newport (1) †.....	.....	.....	.....	4.10		Montague*.....	68	26	36.0	2.33
Newport (2) *.....	.....	.....	.....	3.08		Monterey*.....	66	46	49.5	3.68
Oseola.....	72	23	47.0	3.14		Monterey (Hotel				
Ozone.....	69	14	41.7	1.50		del Monte).....	65	32	52.3	.....
Paragould.....	.....	.....	.....	2.07		Mullans.....	68	27	47.0	7.27
Pine Bluff.....	78	20	49.4	1.94		Napa City*.....	68	31	50.8	8.77
Rogers †.....	75	9	40.6	2.00		National City*.....	71	33	52.9	5.33
Stuttgart.....	77	22	48.4	2.62		Newark*.....	63	35	51.7	5.02
Texarkana.....	70	19	44.1	6.47		Newhall*.....	70	24	49.7	9.99
Winslow.....	73	6	39.2	1.59		Newman*.....	68	38	52.3	3.27
<i>California.</i>	.....	.....	.....	.....		Niles*.....	71	34	57.5	5.11
Alcade*.....	65	30	49.6	5.17		Norwalk*.....	71	32	55.1	8.09
Alcatraz Island.....	65	35	49.1	7.35		Oakland (1).....	65	32	49.4	11.37